

American.

<i>Papilio asterias.</i>	<i>Papilio turnus.</i>
—— <i>philenor.</i>	—— <i>ajax.</i>
—— <i>troilus.</i>	<i>Limenitis disippus.</i>
—— <i>crephontes.</i>	

Nocturnal Lepidoptera.

* <i>Hemaris ruficaudis.</i>	<i>Deilephila alecto.</i>
* <i>Everyx cherilus.</i>	—— <i>euphorbia.</i>
<i>Acherontia atropos.</i>	—— <i>elpenor.</i>
<i>Sphinx ligustri.</i>	<i>Smerinthus modestus.</i>
—— <i>lucitiosa.</i>	—— <i>ocellatus.</i>
<i>Ceratomia undulosa.</i>	—— <i>tilia.</i>
—— <i>amyntor.</i>	

* Exhibited for the first time.

Of the Lepidopterous Insects which I have the honour to place before the meeting, *Hemaris ruficaudis* and *Everyx cherilus*, from North America, and *Lenodora nigrolineata*, from South Africa, were exhibited for the first time during the past season.

I regret that, owing to my absence for some time in the early summer, I am not able to exhibit a larger series of set specimens.

The following papers were read :—

1. Descriptions of new Reptiles and Batrachians from Borneo. By G. A. BOULENGER, F.R.S.

[Received January 29, 1900.]

(Plates XIV.—XVII.)

For a knowledge of the Reptiles and Batrachians here characterized for the first time, I am indebted to the kindness of Mr. R. Shelford, Curator of the Sarawak Museum, by whom they were suspected to be undescribed, and who has submitted them to me with a request that I should publish descriptions of such as might prove to represent new species. Some of the types had to be returned to the Sarawak Museum, whilst others have been retained for the British Museum.

LYGOSOMA SHELFORDI. (Plate XIV. fig. 1.)

Section *Ilinulia*. Habit lacertiform; the distance between the end of the snout and the fore limb is contained once and two-fifths in the distance between axilla and groin. Snout short, obtusely pointed. Lower eyelid scaly. Nostril pierced in a single nasal; no supranasal; rostral forming a straight transverse suture with the frontonasal, which is as long as broad; inner angles of præfrontals meeting; frontal narrow, as long as frontoparietals and

interparietal together, in contact with the two anterior supraoculars; four supraoculars, first longest; seven supraciliaries; frontoparietals and interparietal distinct, subequal; parietals forming a suture behind the interparietal; a single pair of nuchals; fifth upper labial below the centre of the eye. Ear-opening oval, a little smaller than the eye-opening; no auricular lobules. 34 smooth scales round the middle of the body, dorsals slightly larger than laterals and ventrals. A pair of enlarged præanals. The adpressed limbs slightly overlap. Digits moderately long, compressed; subdigital lamellæ smooth, 29 under the fourth toe. Olive-brown above, irregularly spotted with black; a black lateral stripe, extending from the end of the snout to the groin, passing through the eye and above the tympanum, broken up into spots on the side of the body; lower parts grey.

	millim.
Total length	135
Head	14
Width of head	9
Body	53
Fore limb	20
Hind limb	27
Tail	68

Penrissen Mt. Type in the Sarawak Museum.

LEPTUROPHIS, g. n.

Allied to *Lycodon*, with which it agrees in the dentition and the absence of hypapophyses on the posterior præcaudal vertebræ. Maxillary teeth 6 + 6. Head distinct from neck, much depressed; eye moderate, with vertically elliptic pupil; nostril very large, between two nasals and the first upper labial. Body extremely slender and elongate, cylindrical; scales with strong, finely serrated keels, lanceolate, slightly imbricate, in 17 rows, with apical pits; ventrals keeled and notched laterally. Tail extremely slender and elongate; subcaudals in two rows.

LEPTUROPHIS BORNEENSIS, sp. nov. (Plate XV.)

Snout much depressed, broadly truncate. Rostral broader than , just visible from above; internasals barely half as long as the præfrontals; frontal as broad as long, as long as the præfrontals, half the length of the parietals; loreal once and a half as long as deep; one præ- and two postoculars; temporals 2 + 2; eight upper labials, third, fourth, and fifth entering the eye; five lower labials in contact with the anterior chin-shields, which are as long as the posterior. Scales in 17 rows. Ventrals 241; anal divided; subcaudals 193. Brown above, white beneath.

Total length 1480 millim.; tail 570.

Sarawak. Type in the Sarawak Museum.

One of the slenderest snakes known.

XENELAPHIS ELLIPSIFER. (Plate XVI.)

29 teeth in the upper jaw. Eye large, twice as long as its distance from the edge of the mouth. Rostral once and a half as broad as deep, visible from above; internasals nearly as long as the præfrontals; frontal once and two-fifths as long as broad, as long as its distance from the end of the snout, shorter than the parietals; loreal a little longer than deep; one præocular, with a rather large subocular below it, wedged in between the third and fourth upper labials; two postoculars and an elongate subocular separating the eye from the fifth and sixth upper labials; temporals 2+2; eight upper labials, separated from the eye by the suboculars, or fourth entering the eye¹; five lower labials in contact with the anterior chin-shields, which are slightly shorter than the posterior. Scales smooth, in 17 rows, vertebrals not distinctly enlarged. Ventrals 186; anal divided; subcaudals 134 (♂). Head and neck pale brown, sides of neck with interrupted black longitudinal markings; body with 18 large, elliptic, black-edged brown areas separated by cream-coloured narrow interspaces; sides, between and below the brown areas, cream-coloured, spotted or marbled with black; tail, at the base marked like the body, in the second half uniform brown above with a black lateral streak; upper lip and lower parts uniform yellow.

Total length 2 metres; tail 60 centimetres.

Head-waters of Sarawak River. The type, preserved in the Sarawak Museum, was caught in a fish-trap.

This beautiful new Snake connects *Zamenis* with *Xenelaphis*. It agrees with the latter in the number of teeth and strikingly in the number and arrangement of the head-shields, but differs in the vertebral scales not being larger than the rest, a character which cannot be regarded as very important in view of its slight development in *Xenelaphis hexagonotus*.

DISTIRA SARAVACENSIS. (Plate XIV. fig. 2.)

Head moderate; body moderately elongate. Rostral broader than deep; nasals shorter than the frontal, twice and a half as long as the suture between the præfrontals; frontal nearly twice as long as broad, as long as its distance from the rostral, shorter than the parietals; one or two præ- and one postocular; seven upper labials, second largest, fourth or third and fourth entering the eye; two superposed anterior temporals; two pairs of chin-shields, in contact on the median line. 27 scales round the neck, 43 round the body; scales imbricate, keeled. Ventrals distinct throughout, bicarinate, 306. Blackish, with 85 yellowish rings interrupted by the series of ventral scales; a chevron-shaped marking on the upper surface of the head, the apex on the nasals, the branches on the præfrontal, supra- and postocular shields, and on the temple.

Total length 710 millim.; tail 80.

Sarawak coast. Type in the Sarawak Museum.

¹ The former arrangement is shown on the right side of the unique specimen, the latter on the left.

AMBLYCEPHALUS NUHALIS. (Plate XVII. figs. 1, 1 b.)

Rostral as deep as broad; internasals narrow, band-like, hardly one-third the length of the præfrontals; frontal once and two-thirds as long as broad, twice as long as its distance from the end of the snout, once and a half as long as the parietals, which are followed by a pair of nuchals; præfrontal entering the eye; loreal as long as deep, not entering the eye; two præoculars, two postoculars, and a series of three narrow suboculars; three superposed anterior temporals; eight upper labials, eighth very long; first lower labial in contact with its fellow behind the symphysial; three pairs of large chin-shields, anterior a little broader than long. Body strongly compressed; scales in 15 rows, dorsals very feebly keeled, the keel double on the enlarged vertebral series. Ventrals 195; anal entire; subcaudals 105 (♂). Pale buff, with narrow brown transverse lines and scattered dark brown dots; a large black blotch on the nape, sending forth on each side a linear branch to the eye; a black vertical line below the eye, another on the temple.

Total length 490 millim.; tail 125.

Matang. Type in the Sarawak Museum.

RHACOPHORUS SHELFORDI. (Plate XVII. fig. 2.)

Vomerine teeth in two long, nearly straight transverse series in the middle between the moderately large choanæ. Snout pointed, as long as the diameter of the orbit; nostril equally distant from the orbit and the end of the snout; canthus rostralis strong; loreal region slightly concave; interorbital space broader than the upper eyelid; tympanum distinct, three-fifths the diameter of the eye. Fingers webbed to the disks, which are considerably smaller than the tympanum; toes webbed to the disks, which are smaller than those of the fingers; subarticular and inner metatarsal tubercles very small; no tarsal fold. The tibio-tarsal articulation reaches between the eye and the nostril. Skin smooth above, granulate on the belly. Purplish brown above; a dark band across the snout, another between the eyes, and three across the back; an X-shaped dark marking on the scapular region; loreal and temporal regions blackish; a fine yellow line on each side of the head from the tip of the snout along the canthus rostralis and superciliary edge to above the tympanum; sides of body yellowish, with a blackish network; limbs with dark cross-bands; sides of thighs blackish, closely speckled with white; web between toes marbled with blackish; lower parts colourless. Male with internal vocal sacs.

From snout 45 millim.

Penrissen Mt. Type in the British Museum.

This species is closely allied to *R. fasciatus* Blgr.

IXALUS PETERSI. (Plate XVII. fig. 3.)

Snout rounded or obtusely pointed, as long as the diameter of the orbit; canthus rostralis distinct; loreal region concave; nostril a little nearer the end of the snout than the eye; interorbital

space as broad as the upper eyelid; tympanum distinct, one half or two-fifths the diameter of the eye. Fingers free; toes half-webbed; disks of fingers a little smaller than the tympanum; subarticular tubercles moderate; a small inner metatarsal tubercle. The tibio-tarsal articulation reaches the tip of the snout. Upper parts smooth or with small flat warts; belly and lower surface of thighs granulate. Grey-brown above, with dark brown symmetrical markings, a cross-band between the eyes being constant; usually a)(or)-(shaped marking on the anterior part of the body; a dark streak on the canthus rostralis; limbs with dark cross-bars; lower parts white, with or without brown spots on the throat.

From snout to vent 40 millim.

I have examined specimens from Mts. Penrissen, Dulit, and Kina Bulu, in Borneo; also from Great Natuna. The species is closely allied to the Javan *I. aurifasciatus*, to which the first Bornean specimens were referred by the late Prof. Peters (Ann. Mus. Genova, iii. 1872, p. 44). *I. aurifasciatus* has a smaller, less distinct tympanum, shorter digits, and a brighter coloration, being marked with reddish, dark brown, green, and bright yellow.

CALOPHYRINUS HETEROCHIRUS. (Plate XVII. fig. 4.)

Tongue large, pyriform, covering the floor of the mouth. Snout very short, slightly prominent, truncate; canthus rostralis strong; loreal region nearly vertical; interorbital space broader than the upper eyelid; tympanum feebly distinct, measuring about two-thirds the diameter of the eye. First and second fingers very short, not half the length of the third, fourth shorter still, almost reduced to a knob; toes short, one-third webbed, fifth shorter than third; tips of fingers and toes bluntly pointed; subarticular tubercles feebly prominent; two feebly prominent metatarsal tubercles. The tibio-tarsal articulation reaches the eye. Skin smooth. Uniform purplish brown above, yellowish white beneath and on the sides of the head; a few large round yellowish-white spots on the lumbar region and on the back of the thighs.

A female, full of large-sized ripe ova, measures only 27 millim. from snout to vent.

Borneo (no precise locality). Type in the Sarawak Museum.

EXPLANATION OF PLATES XIV.-XVII.

PLATE XIV.

Fig. 1. *Lygosoma shelfordi*, p. 182.

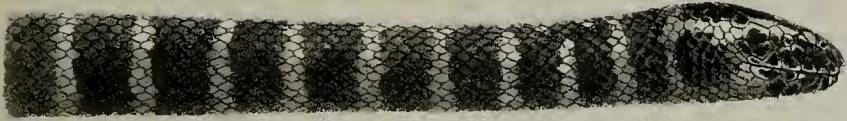
2. *Distira saravacensis*, p. 184.

Upper and side views of head and neck, side view of body, and side view of tail.

PLATE XV.

Lepturophis borneensis, p. 183.

Upper, lower, and side views of head and anterior part of body.



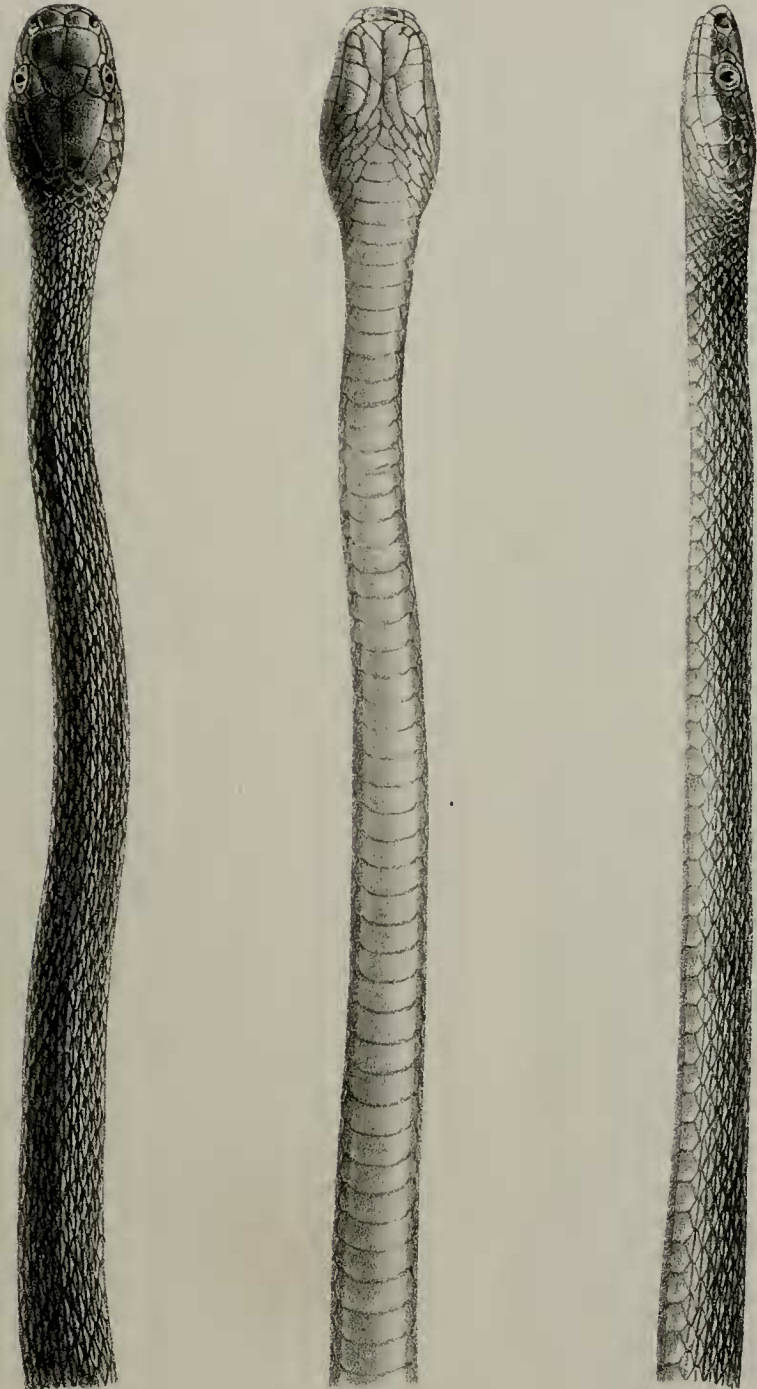
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P.J. Smit del. et lith.
1. LYGOSOMA SHELFORDI.

Mirthern Bros. imp.
2. DISTIPA SARAVACENSIS.





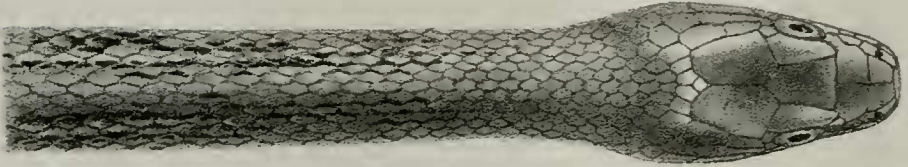
P.J.Smit del et lith

Mintern Bros imp

LEPTUROPHIS BORNEENSIS.











3.



4.



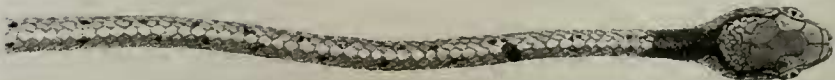
la.



2.



1b.



1.



PLATE XVI.

Xenelaphis ellipsifer, p. 184. $\frac{2}{3}$ nat. size.

Upper and side views of head and neck and of middle of body.

PLATE XVII.

Fig. 1. *Amblycephalus nuchalis*, p. 185. Upper and side views of head and neck.1 a. Lower view of head, $\times 1\frac{1}{2}$.1 b. Dorsal scales, $\times 1\frac{1}{2}$.2. *Rhacophorus shufordii*, p. 185.3. *Icalus petersi*, p. 185.4. *Calophrynus heterochirus*, p. 186.

2. On the Brain of a Siamang (*Hylobates syndactylus*). By FRANK E. BEDDARD, M.A., F.R.S., Prosector and Vice-Secretary to the Society.

[Received January 30, 1900.]

The death of the Society's specimen of this rare Anthropoid Ape¹ has enabled me to study an exceedingly well-prepared brain.

In bringing before the Society some notes upon the cerebral characters of this Ape, I am not breaking new ground. More than thirty years ago Sir William Flower² described the general outline of the brain of this Ape from a cast of the cranial cavity. The account was accompanied by several woodcuts in the text, illustrating one remarkable feature in the brain, which was described in the following words: "The most striking peculiarity of the brain is the backward projection of the cerebellum beyond the level of the cerebral hemispheres, a circumstance, as far as I am aware, unknown in any of the Apes either of the Old or New World."

This feature is not shown distinctly, but there are indications of it, in Prof. Kohlbrügge's figure³ of the brain of the Siamang. It appears from the latter drawing that the cerebellum would be visible on an inspection of the brain from above, though Kohlbrügge remarks that the contrary is the case—without, however, referring to Flower's observations on the matter, having been unable to study his paper. Prof. Kohlbrügge examined eight brains of this Ape. Other writers upon the brain-structure of *Hylobates syndactylus* are Sandifort⁴ and Waldeyer⁵. Thus not more than ten brains of this species (or genus?) have been studied. It is not therefore perhaps superfluous to extend this list to eleven brains.

¹ Presented by Mr. Stanley S. Flower, F.Z.S. (See P. Z. S. 1898, p. 588.)

² Nat. Hist. Review, 1863, p. 279.

³ "Versuch einer Anatomie des Genus *Hylobates*," in Max Weber's Zool. Ergebn. Bd. ii. p. 186.

⁴ Verhandelingen over de natuurlijke geschiedenis der Nederlandsche overzeesche bezittingen. Leiden, 1840.

⁵ "Das Gibbongehirn," Internat. Beitr. z. wiss. Med. Festschr. Virchow, Bd. i. For this reference I am indebted to Dr. Keith's paper on the Gibbon in 'Nat. Science,' vol. ix.